

## CLAIM AMENDMENTS

Please amend the claims as follows.

1. (Currently Amended) A method for increasing channel diversity in a mobile communications device ~~wirelessly transmitting data between a base transceiver station and a subscriber unit, the base transceiver station comprising a plurality of transmit antennae, the~~ method comprising:

generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol; and

~~transmitting, in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol; and~~

utilizing receiving one or more select data stream(s) associated with a communication channel from a remote transmitter at the mobile communication device through a plurality (N) of electric dipole antennae and a plurality (M) of magnetic dipole antennae, each of said antennae characterized by a distinct polarization with respect to another, said electric dipole antennae and magnetic dipole antennae co-located in a common antennae structure at the mobile communications device to provide at least N+M uncorrelated spatial streams of channel diversity of the received communication channel to a receiver within the mobile communications device with one another at the subscriber unit to receive the selected data streams.

2. (Original) The method of claim 1 wherein each electric dipole antennae has a different polarization.

3. (Original) The method of claim 1 wherein each magnetic dipole antenna has a different polarization.
4. (Original) The method of claim 1 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.
5. (Original) The method of claim 4 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.
6. (Original) The method of claim 4 wherein the data streams are transmitted via a scattering channel.
7. (Original) The method of claim 1 wherein the subscriber unit comprises a palm sized device.
8. (Original) The method of claim 7 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.
9. (Original) The method of claim 8 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.
10. (Original) The method of claim 9 wherein the data streams are transmitted via a scattering channel.

11. (Currently Amended) A method for transmitting data from a mobile communications device wirelessly receiving data at a base transceiver station from a subscriber unit, the base transceiver station comprising a plurality of antennae, the method comprising:

utilizing co-located transmitting data streams on an assigned channel of a multiple access protocol via select ones of a plurality (N) of electric dipole antennae co-located at the subscriber unit to transmit selected data streams on an assigned channel of a multiple access protocol mobile communication device as a single antenna structure, each antenna characterized by a distinct polarization with respect to any other to generate at least N uncorrelated spatial streams of channel diversity from the single antenna structure; and

generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol; and  
~~receiving in response to the control signals the selected data streams on the assigned channel of the multiple access protocol.~~

*Claim 12 is withdrawn from consideration, without prejudice.*

13. (Currently Amended) The method of claim ~~12~~ 11 wherein the electric dipole antennae comprise 3 electric dipole antennae.

14. (Original) The method of claim 13 wherein the 3 electric dipole antennae have 3 different polarizations.

15. (Original) The method of claim 14 wherein the data streams are transmitted via a scattering channel.

16. (Currently Amended) The method of claim 11 wherein the ~~subscriber unit~~ mobile communications device comprises a palm sized device.

*Claims 17-19 are withdrawn from consideration, without prejudice.*

20. (Currently Amended) A mobile communications device system for wirelessly transmitting data between a base transceiver station and a subscriber unit, the base transceiver station comprising a plurality of transmit antennae, the system comprising:

means for generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol;

~~means for transmitting in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol~~  
a transmitter, to prepare data for transmission; and

~~means for utilizing~~ a plurality (N) of electric dipole antennae and a plurality (M) of magnetic dipole antennae co-located at the mobile communications device as a single antennae structure, responsive to the transmitter to effect transmission of the data through a wireless communication channel to a remote receiver, wherein each of the antennae has a distinct polarization with respect to any other antennae of the structure to generate at least N+M uncorrelated spatial streams composing the wireless communication channel ~~said electric dipole~~

~~antennae and magnetic dipole antennae co-located within a common antennae structure at the subscriber unit to receive the selected data streams.~~

***Please withdraw claims 21-22 from consideration, without prejudice.***

23. (Currently Amended) The ~~system~~ device of claim 20 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.

24. (Currently Amended) The ~~system~~ device of claim 23 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

25. (Currently Amended) The ~~system~~ device of claim 24 wherein the data streams are transmitted via a scattering channel.

26. (Currently Amended) The ~~system~~ device of claim 20 wherein the ~~subscriber unit~~ device comprises a palm sized device.

27. (Currently Amended) The ~~system~~ device of claim 26 wherein the electric dipole antennae comprise 3 electric dipole antennae and the magnetic dipole antennae comprise 3 magnetic dipole antennae.

28. (Currently Amended) The ~~system~~ device of claim 27 wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic dipole antennae have 3 different polarizations.

29. (Currently Amended) The ~~system~~ device of claim 28 wherein the data streams are transmitted via a scattering channel.

30. (Currently Amended) A mobile communications device ~~system for wirelessly receiving data at a base transceiver station from a subscriber unit, the base transceiver station comprising a plurality of antennae, the system~~ comprising:

~~means for utilizing co-located~~ a plurality (N) of electric dipole antennae and a plurality (M) of magnetic dipole antennae, co-located at the subscriber unit communications device as a single antenna structure, responsive to a wireless communication channel wherein each of the plurality of antennae have a different polarization with respect to any other to produce at least N+M uncorrelated spatial streams from the received wireless communication channel to transmit selected data streams on an assigned channel of a multiple access protocol;

means for generating control signals to configure the base transceiver station to receive the selected data streams from the subscriber unit on the assigned channel of a multiple access protocol; and

~~means for receiving a receiver, selectively responsive to at least a subset of the plurality of antennae, to process the N+M uncorrelated spatial streams to recover data transmitted therethrough, in response to the control signals the selected data streams on the assigned channel of the multiple access protocol.~~

*Please withdraw claims 31 and 32 from consideration, without prejudice.*

33. (Currently Amended) The ~~system~~ device of claim 32 ~~30~~ wherein the 3 electric dipole antennae have 3 different polarizations, and 3 magnetic dipole antennae have 3 different polarizations.

34. (Currently Amended) The ~~system~~ device of claim 33 wherein the data streams are transmitted via a scattering channel.

35. (Currently Amended) Wherein the ~~The system device~~ of claim 30 ~~wherein the subscriber unit comprise a palm sized device.~~

*Please withdraw claims 36-38 from consideration, without prejudice.*

39. (Currently Amended) ~~A method for wireless transmitting data between a base transceiver station and a subscriber unit, the base transceiver station comprising a plurality of transmit antennae, the method comprising:~~

generating control signals to configure the base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol, wherein the assigned channel comprises a scattering channel; and  
~~transmitting in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol; and~~

receiving a wireless communication channel at a mobile communications device utilizing  
six (6) co-located antennae at the subscriber unit device, to receive the selected data streams  
~~wherein the subscriber unit comprises a palm-sized device and wherein the 6 co-located antennae~~  
comprise 3 electric dipole antennae and 3 magnetic dipole antennae disposed on a single  
antennae structure, each antenna characterized by a distinct polarization with respect to any other  
antennae to generate 6 uncorrelated spatial streams from the received wireless communication  
channel ~~wherein the 3 electric dipole antennae have 3 different polarizations and the 3 magnetic~~  
~~dipole antennae have 3 different polarizations.~~

*Please withdraw claims 40-45 from consideration, without prejudice.*